

Physics

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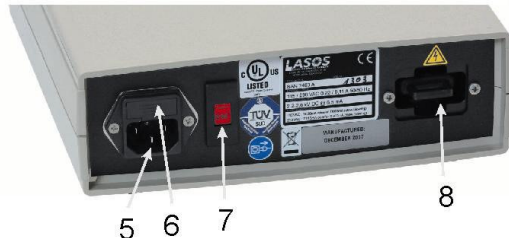


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Operating instructions 471 825

Power supply for He-Ne laser 5 mW (471 825)



Front:

- 1 Key switch
- 2 Emission control lamp
- 3 Connection socket for the high voltage plug
- 4 Earth connection

Back:

- 5 Connection socket IEC 320 for the mains voltage
- 6 Fuse holder
- 7 Mains voltage selection switch
- 8 4 mm safety laboratory socket for the safety loop

Safety notes



Read the operating instructions!

- This apparatus delivers a high voltage which is hazardous on contact!
 - Only switch the apparatus on when the setting up is complete.
 - Only make any changes to the circuit when the apparatus is switched off.
 - Before starting up the laser head, connect the earth connection to earth potential.
 - Connect the laser head to the switched-off power supply only by means of the 2-pole HV plug. Do not use separated plugs!
 - Connection and separation of the high voltage connections between the laser and the power supply must be made while the power supply is switched off. The HV plug on the laser may be separated from the power supply at the earliest three minutes after the mains voltage has been switched off.
 - After separating from the power supply the laser may still carry a capacitive charge. It must be discharged by short-circuiting the two pins of the HV plug.
 - Never insert any electrically conducting objects (e.g. screwdriver, wire or similar) into the high voltage socket. Even after the apparatus has been switched off a voltage which will be hazardous on contact may still be present.
- Ensure that the mains voltage given on the type plate corresponds to that of your mains supply.
- Only insert the mains plug into an earthed socket. The protective effect must not be invalidated by using an extension lead without an earth connection.
- Set up the apparatus in such a way that the mains switch and the switch on the apparatus are readily accessible. The apparatus ventilation slots must not be covered.
- Do not switch on the apparatus if it or the mains cable are visibly damaged.
- The apparatus is only intended for operation in dry rooms without any explosion hazard.
- Only use the apparatus for the intended purpose.
- Before replacing fuses always first pull out the mains plug. Only use fuses for the intended nominal current (see Technical data).
- After switching on the power supply, laser radiation can immediately be emitted from the connected laser head.
- Additional protection measures and behavioural rules for the operation of the laser head are to be observed! These are found in the corresponding operating instructions.

1 Description

The power supply for the He-Ne laser 5 mW is used for supplying power to He-Ne lasers with a output power of 5 mW, a typical operating voltage of 2,500 V and a current of 6.5 mA e.g. the He-Ne laser head 5 mW (471 825).

In order to prevent starting up by unauthorised persons, the power supply for the He-Ne laser 5 mW is equipped with a key switch. An emission control lamp signals that the laser is operating. A connection for a remotely controlled lock is integrated in order to allow connection of the laser system to a door contact or an emergency off switch. This connection can be short-circuited by means of a jumper (enclosed in the scope of delivery).

2 Scope of delivery

1 Power supply for He-Ne laser 5 mW

1 Cable for connecting the earth connection on the laser head to earth potential

1 Jumper

2 Keys

In addition the following is recommended

He-Ne laser head, 5 mW (471 821)

3 Operation

- Important: Observe the safety information!
- Attach the He-Ne laser head 5 mW to the laser support (470 010).
- Insert the HV plug of the laser head into the connection socket of the switched-off power supply for the He-Ne laser 5 mW. Ensure that the plug is fully inserted.
- Before starting up the laser head, connect the earth connection to earth potential.
- Connect the power supply to the alternating current network.
- Release the power supply by operating the key switch. The laser will start after three seconds.

4 Technical data

Output:

Starting voltage:	≥ 10 kV DC
Operating voltage:	2.2...2.6 kV DC
Operating current:	6.5 mA

Mains connection:

Mains connection voltage:	230 V, 50/60 Hz AC (set for delivery) switchable to 115 V, 50/60 Hz
Current draw:	110 / 220 mA

Required micro-fuse

230 V AC:	T 315 mA or T 300 mA (slow blowing)
115 V AC:	T 630 mA or T 600 mA (slow blowing)

General data:

Dimensions:	23 cm x 21 cm x 7 cm
Mass:	1.3 kg

5 Switching a power supply to a main voltage of 115 V

The power supply is pre-set at the manufacturer's to an input voltage of 230 V AC. For switching to an input voltage of 115 V the mains selection switch on the back of the power supply has to be turned to the "115 V" setting and the micro-fuses (values see section 4) are to be replaced.